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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,554	04/09/2004	Yuuki Watanabe	09792909-5863	1305

26263 7590 08/19/2008  
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EXAMINER
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CHIN, CHRISTOPHER L

ART UNIT	PAPER NUMBER
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1641

MAIL DATE	DELIVERY MODE
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08/19/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/821,554	<b>Applicant(s)</b> WATANABE, YUUKI	
	<b>Examiner</b> Christopher L. Chin	<b>Art Unit</b> 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/25/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. Claims 17-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification, as originally filed, is not enabled for the emotion sensor device and emotion sensing method of claims 17-18. The specification fails to teach any specific “secretion products” that are directly related to specific changes in specific emotions. The claimed method and sensor device require detection of changes in a detecting portion caused by coupling of secretion products to the detecting portion. Since the specification fails to identify the “secretion products” and to which emotions are related to the “secreted products”, the claimed sensor and method cannot be enabled for the detection of changes in emotion.

In response to this rejection, Applicants argue that the specification clearly teaches examples of secretion product targets and their respective binding sites. Applicants also argue that the specification describes endocrine system secretions are indicators of mental stress. Thus, Applicants assert that the specification clearly enables specific secretion products and emotions to which they are related.

Applicant’s arguments have been considered but are not convincing. At best, the instant specification might be enabled for the detection of mental stress, which is in itself

Art Unit: 1641

a nebulous term since mental stress can take on many forms depending on the individual experiencing the mental stress. With respect to the other "targets" (immunoglobulin, protein, acetylcholine, serum albumin, and streptavidin) mentioned by applicants, all of these "targets" are normally present in the human body, especially proteins and immunoglobulins, so detection of any one cannot be considered indicative of a particular emotion. The instant specification fails to provide any correlation between any of the mentioned "targets" to specific emotions. Without establishing a direct correlation between specific "targets" and specific emotions, detection of any of the mentioned "targets" cannot be an indicator of a specific emotion.

2. Claims 1, 3, and 5-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague. While the preamble characterizes the claimed device as being a sensor, the body of the claim fails to recite any sort of component that can "sense" an interaction between the detecting portion and target. The detecting portion contains a plurality of binding sites for interaction with a target but does not detect the interaction or extract pieces of information.

Claim 3 is vague because it is redundant, given the amendment to claim 1, and thus does not further limit claim 1.

Claims 5-10 are vague because they fail to recite the necessary components in the claimed sensor required to perform the various measurements that are recited.

Claims 13, 15, and 17 suffer from the same deficiencies as claim 1. The insertion of “a detecting portion” does not obviate this rejection since it is not clear as to what comprises this “detection portion”.

Claims 12 and 14 are vague and indefinite. The preamble is not consistent with the body of the claim because the body of the claim is directed to extracting information about a biological substance from coupling with the detecting portion while the preamble is directed to a method for sensing a biological substance. The claim is also not clear as to what changes in the “nature” of the detecting portion are being measured.

Claims 16 and 18 suffer from the same deficiencies as claims 12 and 14.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamentsky (US Patent 4,487,839) for the reasons of record.

In response to this rejection, Applicants argue that Kamentsky fails to disclose the use of the effect of steric hindrance between a plurality of targets.

Applicant’s arguments have been considered but are not convincing because the claims fail to recite limitations directed using the effect of steric hindrance between a plurality of targets.

5. Claims 1, 3, 5-8, and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Malmqvist et al.

Malmqvist et al (US Patent 5,492,840) discloses a surface plasmon resonance biosensor for the detection of multiple analyte in a sample. As shown in Figure 1, the biosensor includes a sensor surface with areas containing different specific binding reagents to bind different analytes in a given sample (see also col. 4).

The biosensor of Malmqvist et al has a detecting portion with a plurality of binding sites where each binding site binds a different type of target analyte. The biosensor can tell when analyte is present or absent and thus can extract plural pieces of information via selective coupling (or not) of analyte to the binding reagents in each area of the biosensor.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 1641

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L. Chin whose telephone number is (571) 272-0815. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/821,554  
Art Unit: 1641

Page 7

/Christopher L. Chin/  
Primary Examiner, Art Unit 1641

08/17/08